Drug Information: Past, Present and Future

Donald C. Plumb, PharmD
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I. Introduction

"Pharmacy must transform itself from primarily a product-based profession to a knowledge-based profession." PEW Commission Report on the Future of the Pharmacy Profession (circa 1975)

A vision of pharmacy as it might exist in 2010:
"Pharmacy will transform itself from a primarily product-centered profession to a patient care-oriented profession."


So if human pharmacy is still struggling with this issue, then what about us in the veterinary pharmacy world? How do we continue to be relevant to both our patients and to those we train? This issue that is too complex to understand, let alone ‘solve’ in this presentation, but what I hope to accomplish over the next hour is to look more closely at one aspect required to solve this puzzle: drug information resources for veterinarians and veterinary pharmacists, what it has been through the years, where it is now, and where it could (must) go in the future.

II. A brief history of the speaker’s perspective on this topic

a. Pre Vet Pharmacy
b. Rookie Vet Pharmacist and Beyond
   i. Where are your drug references? That’s it?
   ii. SVHP’S Formulary (?)

III. Veterinary Drug Information Resources

a. Past
   i. Early-Mid 20th Century
      • The Age of the Compendia
         a. Veterinary Materia Medica and Therapeutics (1901)
         b. Remington’s Pharmaceutical Sciences (1885)
         c. Merck Veterinary Manual (1955)
   ii. Pre-1982
      • The Age of the Textbook (and the PDR clones)
         a. Pharmacology & Therapeutics Focused
            i. Boothe & MacDonald: Veterinary Pharmacology and Therapeutics
            ii. Spinelli & Enos’ Drugs in Veterinary Practice
            iii. Rosoff’s Handbook of Veterinary Drugs
            iv. Upson’s Handbook of Clinical Veterinary Pharmacology
      b. Species or System Based Medical Texts
         i. Current Veterinary Therapy
ii. Internal Medicine Texts (e.g., Ettinger; Smith, etc)

c. Drug Compendia (PDR-like)
   i. Veterinary Pharmaceuticals and Biologicals

iii. Pre-Digital to Early Digital (1982-2000)
   • The Age of the Formulary
     a. The Purdue Formulary
     b. The “Orange Virus”
   • The Formulary Successors
     a. Veterinary Drug Handbook
     b. USP’s Initiative
     c. The Veterinary Formulary (Bishop-UK)
     d. Handbook of Veterinary Drugs
     e. Saunders Handbook of Veterinary Drugs
     f. The New Formularies (Heavy Small Animal Focus)
        i. Boothe’s Small Animal Formulary
        ii. BSAVA Small Animal Formulary
        iii. Morgan’s AAHA Formulary
        iv. Michigan Veterinary Specialists
   g. System/Discipline/Species Focused Drug References
      i. Pain, Anesthesia, Oncology, etc
      ii. Exotics, Equine, Avian, etc

iv. Digital Dominance—The Formative Years (2000-Present)
   • The Age of Everything
   • Evidence-based medicine (baby steps) starts to matter to veterinary medicine
     a. For many years: Anecdotes R Us or “A crust of bread is a feast to a starving man” was ‘acceptable’, but was it ever?
   • Original source material moves from the library to the computer

v. Digital Dominance (Over next 10(?) years—You mean they actually killed trees and printed it on paper?)
   • The Age of Everything persists but now you can access your drug information from anywhere
     i. There are more sources than ever, but is that all that helpful? And how can one distill thru it all?
        a. Technology to the Rescue?
           i. IBM’s Watson and what it means to Medicine (& Veterinary Medicine?)—maybe
           ii. Bundled and Connected References?
iii. The hive mind (a Borg-like approach)

ii. But the question remains: Is the information in our current drug resources true?
   a. How do we know if we won’t/can’t do the science?
   b. Numbers, expertise/interest, and (of course) money: The big 3 that get in the way for meaningful animal drug research (and therefore accurate veterinary drug information)
      i. Numbers
         1. Veterinarians vs MDs
         2. Species
         3. Sample-Sizes (An N of 1 means?)
      ii. Expertise/Interest
         1. The vast majority of veterinarians are first (and mostly only) clinicians
         2. Clinical departments stress research mostly during the tenure process
         3. Good research is hard work
         4. Collaborative and multi-center studies are 1) a pain, and 2) rarely rewarded
      iii. Money
         1. There is no NIAH
         2. Drug & Food Companies
         3. “Kennel” Clubs

iii. How veterinary hospital pharmacists can help improve the quantity, quality and dissemination of veterinary drug information
   a. Teach good DI skills (access, analysis, clinical application) to your students, & your vets.
   b. Get involved in research (I mean it)
   c. Support the evidence-based initiative in DI
   d. Write, speak, ask questions, stir the pot

Remember: We ARE supposed to be a "knowledge-based & patient-care oriented" profession